

Case Study: Library Management System

The Library Management System (LMS) is designed to automate library operations and replace traditional manual systems.

This system serves two main types of users: Librarians (Admins) and Members (Students or Faculty).

Key Features:

1. User registration and authentication for secure access.
2. Catalog management for adding, updating, and deleting book records.
3. Book search functionality using title, author, or ISBN filters.
4. Borrowing and returning books with fine calculation for overdue items.
5. Reporting module for tracking inventory and user activity.
6. Notifications for due dates and overdue items.

Technologies:

- Backend: Python/Java
- Database: MySQL
- Frontend: HTML/CSS/JavaScript
- Security: SSL encryption, role-based access control

This system addresses challenges such as managing large volumes of data, ensuring data integrity, and providing a user-friendly interface for library operations.